NA-340 Series
Network Appliance
User's Manual

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Safety Approvals

- CE Marking
- FCC Class B(NA-340/NA-340FL)

1. FCC Compliance

This equipment has been tested and complies with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. If not installed and used in accordance with proper instructions, this equipment might generate or radiate radio frequency energy and cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measurers:
Reorient or relocate the receiving antenna.
Increase the separation between the equipment and receiver.
Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
Consult the dealer or an experienced radio/TV technician for help.
Shielded interface cables must be used in order to comply with emission limits.

Safety Precautions

Before getting started, read the following important cautions.

1. Be sure to ground yourself to prevent static charge when installing the internal components. Use a grounding wrist strap and place all electronic components in any static-shielded devices. Most electronic components are sensitive to static electrical charge.
2. Disconnect the power cords from the NA-340 Series before making any installation. Be sure both the system and the external devices are turned OFF. Sudden surge of power could ruin sensitive components. Make sure the NA-340 Series is properly grounded.
3. Do not open the system's top cover. If opening the cover for maintenance is a must, only a trained technician is allowed to do so. Integrated circuits on computer boards are sensitive to static electricity. To avoid damaging chips from electrostatic discharge, observe the following precautions:

    - Before handling a board or integrated circuit, touch an unpainted portion of the system unit chassis for a few seconds. This will help to discharge any static electricity on your body.
    - When handling boards and components, wear a wrist-grounding strap, available from most electronic component stores.

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Table of Contents

Disclaimers ii
Safety Approvals iii
Safety Precautions iv

CHAPTER 1 INTRODUCTION 1
1.1 General Description 1
1.2 Features 2
1.3 Specifications 3
1.3.1 System 3
1.3.2 Mechanical / Environmental 5
1.4 Dimensions and Outlines 6
1.5 I/O Outlets 9
1.5.1 Front Panel for NA-340 &NA-340FL 9
1.5.2 Rear Panel for NA-340 &NA-340FL 11
1.5.3 Front Panel for NA-340R 13
1.5.4 Rear Panel for NA-340R 15

CHAPTER 2 HARDWARE DESCRIPTION 17
2.1 Checklist 17
2.2 Memory Module (SODIMM) 18
2.3 Board Layout 19
2.4 Jumper Settings 21
2.4.1 TACT SW2 Function Selection Jumper (JP1) 22
2.4.2 LAN By-Pass Trigger when Power On(JP2) 23
2.4.3 Clear CMOS Jumper (JP5) 24
2.4.4 Auto Power Button Jumer (JP6) 24
2.5 Connectors 25
2.5.1 DC-In Power Jack (CN1) for NA-340 & NA-340FL 26
2.5.2 Power Out Connector (CN3) 26
2.5.3 LCM or SATA Power Connector (CN8) 27
2.5.4 Mini Card Connector (CN9) 28
2.5.5 Front Panel Bezel Connector (CN14) 29
2.5.6 Serial Port1 (For Console) Connector (COM1) 30
2.5.7 Serial Port2 Connector (COM2) 31
2.5.8 CPU FAN Connector (FAN1) 31
2.5.9 System FAN Connector (FAN2/FAN3) 31
2.5.10 PS2 Keyboard/Mouse Connector (CN11) 32

2.5.11 Serial ATA Connector: SATA1, SATA2 32
2.5.12 CFast Socket：SCN1 33
2.5.13 USB Port0~Port1 Connector (USB1) 34
2.5.14 VGA Connector (CN10) 34
2.5.15 LED1~LED8 35
2.5.16 USB Port2~Port3 Connector (USB2) 36
2.5.17 Power Input 12V Connector (ATX1) for NA-340R 36

CHAPTER 3 AMI BIOS SETUP UTILITY 37
3.1 Starting 37
3.2 Navigation Keys 37
3.3 Main Menu 39
3.4 Advanced Menu 40
3.5 Boot Menu 51
3.6 Security Menu 53
3.7 Exit Menu 54

APPENDIX A LAN Bypass Configuration 57

APPENDIX B WDT Timer for System Reset 63

APPENDIX C WARNING 65

CHAPTER 1
INTRODUCTION

This chapter contains general information and detailed specifications of the NA-340 Series Network Appliance Server. Chapter 1 contains the following sections:

- **General Description**
- **Features**
- **Specifications**
- **Dimensions**
- **I/O Outlets**

1.1 General Description

The NA-340/FL is a 1U and desktop and NA-340R is a 1U and rackmount network security hardware platform for VPN, firewall and other network security applications, which consists can support of Intel® ATOM D425/D525 1.8GHz ; 512K/1M L2 Cache. This platform supports the 1U desktop and 1U rack mount form factor, and the system supports DDR3 800 memory with single channel up to maximum 4 GB for one SODIMM slot. In the meantime, the platform also can support 6 Gigabit LAN ports which can provide best throughput. For the purpose to store event log data, it can deploy one 2.5" SATA2 HDD (NA-340&NA-340FL) or two 2.5" SATA2 (default) or one 3.5" SATA2 HDD (optional) in (NA-340R). This platform can be easily enabled through application programs to make a user-friendly appliance for customers, and provide the highest ever performance of encryption and decryption.

1.2 Features

Low power and high performance for network security field applications. NA-340 series supports Intel® ATOM D525 1.8GHz; 1M L2 Cache. (D425 for optional)

- Supports Six 10/100/1000Mbps Ethernet ports
- Supports BIOS redirected to COM port features
- Supports one 2.5" SATA2 Hard Disk for NA-340&NA-340FL
  Supports Two 2.5" SATA2 or one 3.5" SATA2 (optional) Hard Disk for NA-340R
- Reasonable computing performance and throughput for processor and LAN ports
- Suitable for Network Appliance; VPN, network bandwidth controller, firewall and UTM

1.3 Specifications

1.3.1 System

- **System CPU**
  - Intel® D525 1.8GHz ;1M L2 Cache processor onboard.(D425 for optional)
- **BIOS**
  - AMI 16Mbit PnP Flash BIOS with function of BIOS redirected to COM port
- **System Memory**
  - One DDR3 800 SODIMM up to 4 GB(NA-340,NA-340R)
  - One DDR3 800 SODIMM up to 4 GB(Wide temperature support is available upon request (NA-340FL)
- **HDD Interface**
  - One 2.5" SATA2 HDD for NA-340
  - One 2.5" SATA2 HDD (Wide temperature support is available upon request (NA-340FL)
  - Two 2.5" SATA2 or one 3.5" SATA2 (optional) Hard Disk for NA-340R
- **CFast**
  - One a CFastTM socket on the solder side to support a SATA signal card.
- **Network Interface**
  - Network Interface
  - Six 10/100/1000Mbps Ethernet (Intel® 82583V)
    One group LAN by pass support latch relay
- **Watchdog Timer**
  - One for lan by pass :7 levels,1-64 seconds
  - One for system reset: 255 levels,1-255 sec

- **USB**
  - Two USB ports in the rear side
- **Console**
  - RS-232 Console port is the rear side(RJ-type)

- **Power**
  - 1 x 12V, 5A power adapter for NA-340,NA-340FL
  - AC to DC 84W open frame for NA-340R
- **OS Compatibility**
  - Redhat 2.6 Kernel

1.3.2 Mechanical / Environmental

Form Factor

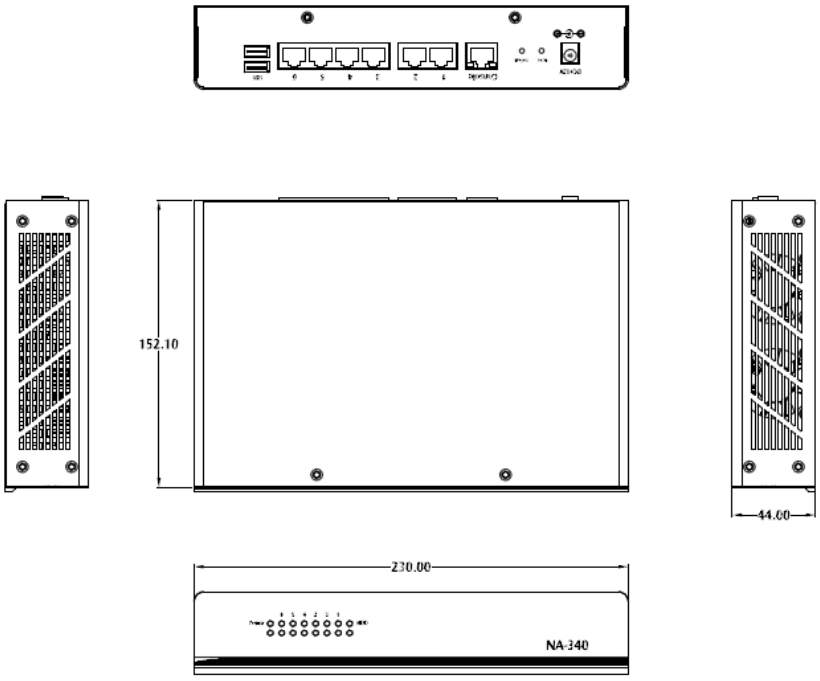
- 1U Desktop for NA-340 & NA-340FL
- 1U Rack mount for NA-340R

- **LED**
  - Power, HDD, Link/Act with transfer rate
  - LAN by pass LED and programmable LED
- **Operation Temperature**
  - 0°C ~ 40°C (32°F ~ 104°F)for NA-340FL
  - 0°C ~ 45°C (32°F ~ 113°F)for NA-340/NA-340R
- **Storage Temperature**
  - -20°C ~ 70°C (-4°F ~ 158°F)
- **Humidity**
  - 10% - 95% RH, non-condensing
- **Chassis Material**
  - Steel
- **Dimensions**
  - 44mm (1.73") (H) x 230mm (9.00") (W) x 152.1mm (5.98") (D) for NA-340
  - 44mm (1.73") (H) x 230mm (9.00") (W) x 153.5mm (6.04") (D) for NA-340FL
  - 44mm(1.73'')(H) x 430mm (16.93") (W) x 248mm (9.76") (D) for NA-340R
- **Weight (Net/Gross)**
  - 1.3g / 2.3Kg (NA-340)
  - 2.0 Kg/3.0 Kg(NA-340FL)
  - 3.2Kg/4.2Kg (NA-340R)

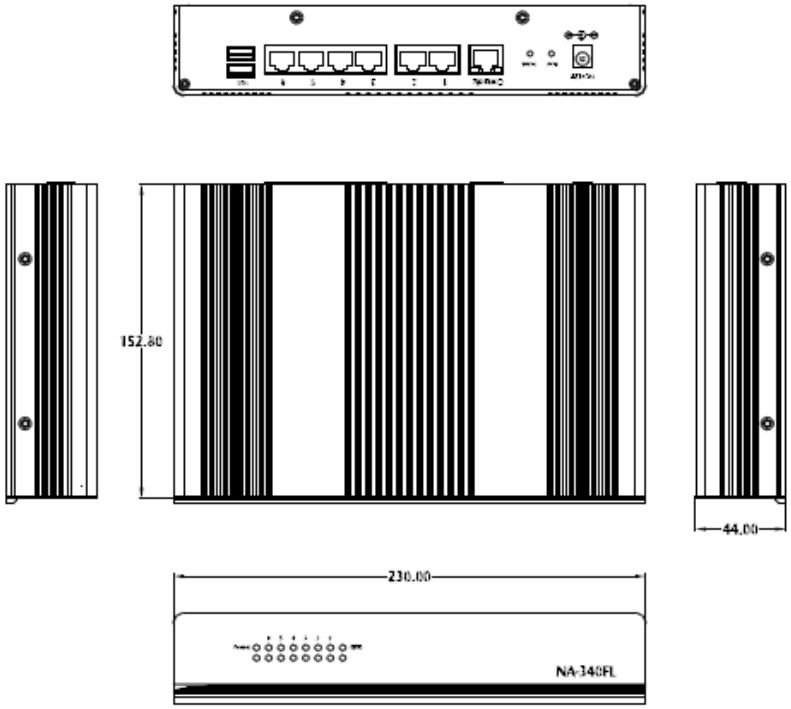
NOTE ***All specifications and images are subject to change without notice.***

1.4 Dimensions and Outlines

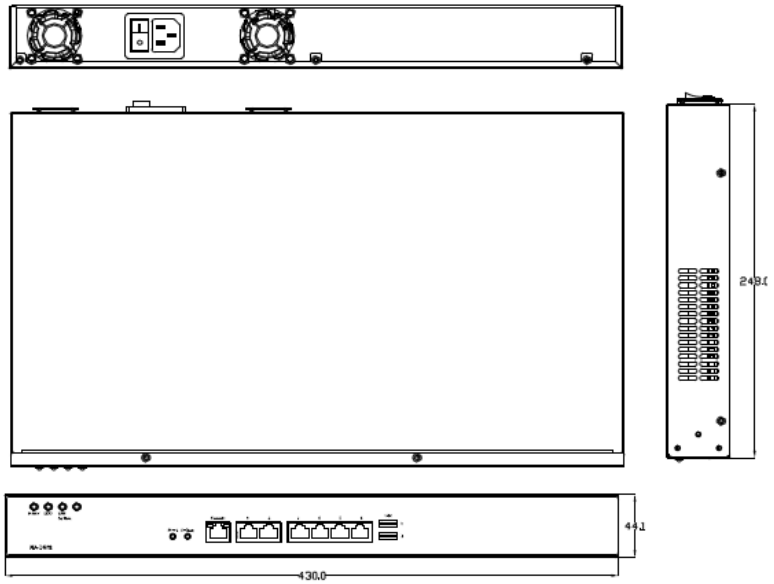
NA-340



NA-340FL



NA-340R



1.5 I/O Outlets

Locate the front panel I/O outlets on the NA-340 Series server to connect serial and Ethernet interface devices.

1.5.1 Front Panel for NA-340 &NA-340FL

LEDs

LEDs

- **LAN By-Pass LED**

While running the LAN By-Pass function, the LED always lights up.

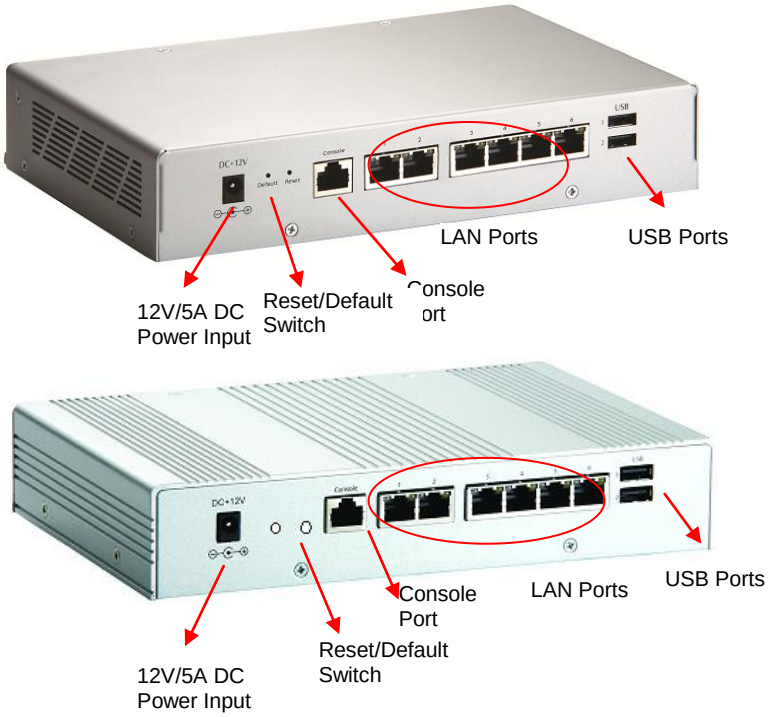
- **Programmable LED**

A sample code will be provided that allow users to define their own function.

The sample codes for the above features can be found in the CD, and they are only for customers' reference as remarked.

- **Power LED**
  It will be lighting when the server is powered on to perform diagnostic tests and check a proper operation.
- **LAN Link LED**
  It will be lighting when a twisted pair is connected to another Ethernet device on the port. It shows network transfer rate while making a connection.
- **Activity LED**
  It will be lighting when the server is transmitting or receiving a packet through the twisted pair ports.
- **HDD LED**
  The LED flashes when transmitting or receiving any signals.

1.5.2 Rear Panel for NA-340 &NA-340FL



- **Console port –** RS-232 Console port is for the command of line interface and of diagnostic support by P.O.S.T (Power on Self Test).
- **Reset Switch –** It is for reset the system to reboot your computer instead of turning OFF the power switch. It is a better way to reboot your system for a longer life of the system's power supply.
- **Default Switch –** The sample code will be provided that allows users to define their own function. For example, when the system has any problems, this switch can support to reset it to the customer's OS default settings if our customer's OS supports this application.

- **Link/Active LED (Single color)for LAN port #1, port#2, port#3, port#4, port#5, port#6**

  1. The orange LED is on when the LAN port connection is working.
  2. The LED flashes when transmitting or receiving any signals to or from the appliance.
  3. The LED is dark when the appliance is off.

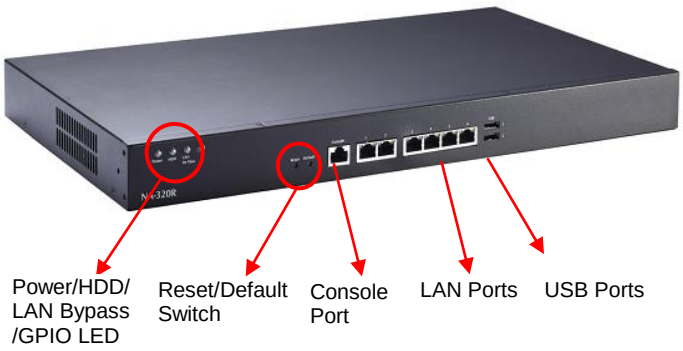
- **Transmitted LED for LAN port #1, port#2, port#3, port#4, port#5, port#6**

  1. The double-color LED light indicates 10/100/1000Mbps transfer rate.

`Transfer Rate	LED Light Color
10Mbps	Dark
100Mbps	Green
1000Mbps	Amber

  2. When the amber-color LED light is radiating, it should be 1000Mbps transfer rate at this moment.
  3. When the green-color LED light is radiating, it should be 100Mbps transfer rate at this moment
  4. If the LED is dark and Link/Active LED is light on or flashing, it should be 10Mbps transfer rate.
  5. When this LED and Link/Active LED both are dark. No networking devices are attached

1.5.3 Front Panel for NA-340R



- **Power on LED**
  System and power on
- **HDD LED**
  Link/Active LED (single color)
  1. The green LED is on when it is a normal HD connection.
  2. The LED flashes when transmitting or receiving any signals.
- **LAN By-Pass LED**
  While running the LAN By-Pass function, the LED always lights up.
- **GPIO LED**

  A sample code will be provided that allow users to define their own function.
  The sample codes for the above features can be found in the CD, and they are only for customers' reference as remarked.
- **Link/Active LED (Single color)for LAN port #1, port#2, port#3, port#4, port#5 and port#6**
  1. The orange LED is on when the LAN port connection is working.
  2. The LED flashes when transmitting or receiving any signals to or from the appliance.
  3. The LED is dark when the appliance is off.

- **Transmitted LED for LAN port #1, port#2, port#3, port#4, port#5 and port#6**
  1. The double-color LED light indicates 10/100/1000Mbps transfer rate.

`Transfer Rate	LED Light Color
10Mbps	Dark
100Mbps	Green
1000Mbps	Amber

  2. When the amber-color LED light is radiating, it should be 1000Mbps transfer rate at this moment.
  3. When the green-color LED light is radiating, it should be 100Mbps transfer rate at this moment
  4. If the LED is dark and Link/Active LED is light on or flashing, it should be 10Mbps transfer rate.
  5. When this LED and Link/Active LED both are dark. No networking devices are attached

- **Console port –** RJ RS-232 Console port is for the command of line interface and of diagnostic support by P.O.S.T (Power on Self Test).
- **Reset Switch –** It is for reset the system to reboot your computer instead of turning OFF the power switch. It is a better way to reboot your system for a longer life of the system's power supply.
- **Default Switch –** The sample code will be provided that allows users to define their own function. For example, when the system has any problems, this switch can support to reset it to the customer's OS default settings if our customer's OS supports this application

1.5.4 Rear Panel for NA-340R

MEMO:

CHAPTER 2
HARDWARE DESCRIPTION

The NA-340 Series are convenient for your various hardware configurations. The chapter 2 will help you get familiar with the hardware.

2.1 Checklist

The package bundled with your NA-340 Series should contain the following items:

The NA-340 Series network appliance hardware platform

- DC Power Adapter x 1,Power cord x 1(NA-340&NA-340FL), Power cord x 1(NA-340R)
- Utility CD (including this User's Manual and driver, sample code) x 1
- Mounting screws for disk drive and additional screws for this appliance's spare parts
- Installed NA-340&NA-340 cable kits (1 x SATA cable, 1 x SATA power cable, 1 x console cable)
- Installed NA-340R cable kits (2 x SATA cable, 1 x SATA power cable, 1 x console cable)
- Optional cable kits (1 x PS/2 KB,1x Y-type cable for KB/Mouse,1xVGA cable,1xLAN cable)
- Plastic stand for stack–up x 4
- 1U Rackmount ear kit (NA-340R)

If you cannot find this package or any items are missing, please contact Axiomtek distributors immediately. If you order any optional components, the package might contain those additional hardware or documents accordingly.

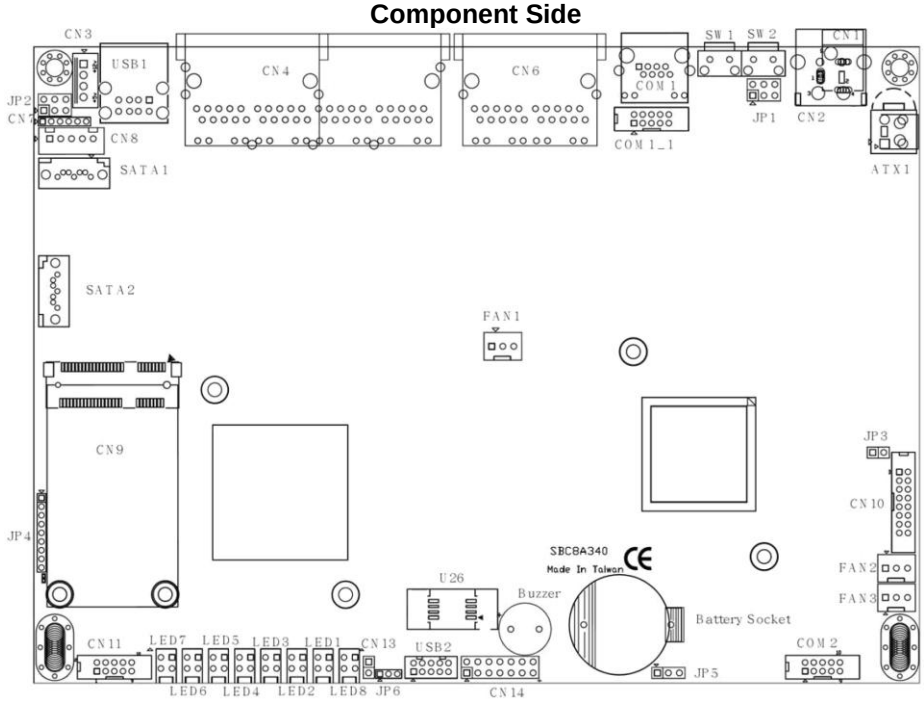
2.2 Memory Module (SODIMM)

The main board supports one DDR3 800 SODIMM socket. Maximum memory capacity is up to 4GB None-ECC unbuffer memory.
The following steps show you how to install the memory modules:

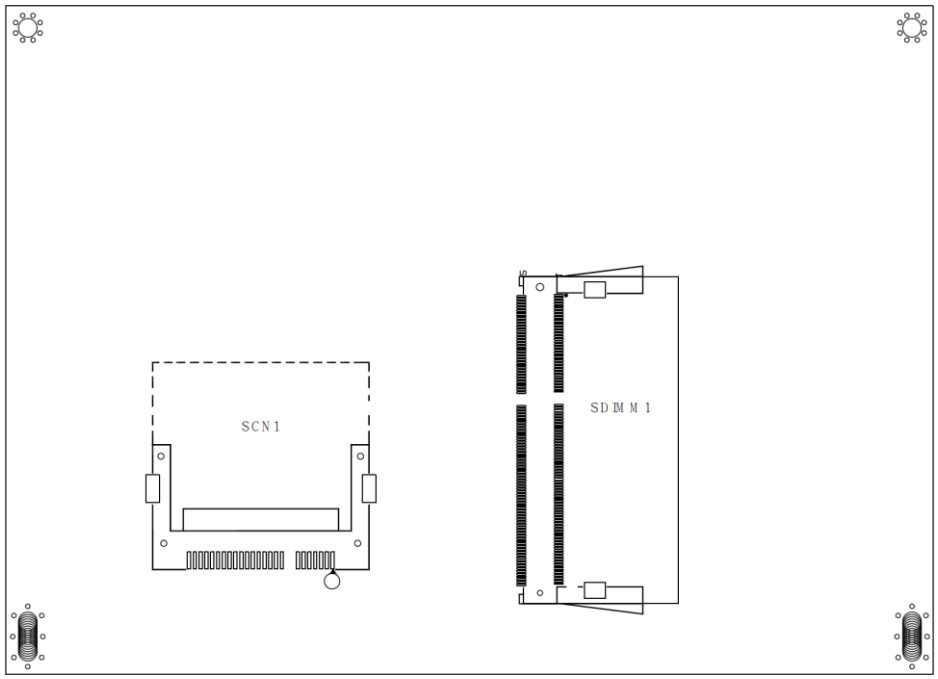
1 Push down each side of the SODIMM socket.
2 Align the memory module with the socket that notches of memory module must match the socket keys for a correct installation.
3 Install the memory module into the socket and push it firmly down until it is fully seated. The socket latches are levered upwards and clipped on to the edges of the DIMM.
4 Install any remaining SODIMM modules.

2.3 Board Layout

Component Side



Solder Side



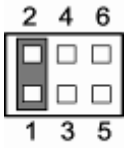
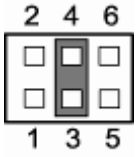
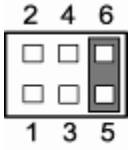
2.4 Jumper Settings

This section provides the information about jumpers and connectors of NA-340 Series. Proper jumper settings configure the main board in this appliance to meet your application purpose. We are herewith listing a summary table of all jumpers and default settings for onboard devices, respectively.

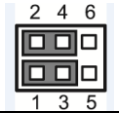
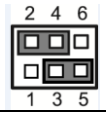
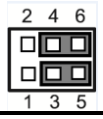
Jumper	Definition	Jumper Settings	Function
JP1	TACT SW2 Selection	Short (1-2)	Power On/Off
		Short (3-4)	Reset(Default)
		Short (5-6)	GPI
JP2	LAN By-Pass Trigger when Power On	Short(1-3) &(2-4)	LAN5 & LAN6 Bypass as same as Power Off status
		Short(3-5)&(2-4)	LAN5 & LAN6 Bypass Disable(Default)
		Short(3-5)&(4-6)	LAN5 & LAN6 Bypass Enable
JP3/4	Reserve	Open	N/A
JP5	Clear CMOS Setting	Short (1-2)	Normal(Default)
		Short (2-3)	Clear BIOS CMOS
JP6	Auto Power Button Mode Selection	Short(1-2)	Auto Power On (Default)
		Short(2-3)	Power on By Power button

2.4.1 TACT SW2 Function Selection Jumper (JP1)

Use this jumper to select the TACT SW2 Function.

Description	Function	Jumper Setting
TACT SW2 Function Selection	Power On/Off	JP1 
	Reset (Default)	JP1 
	GPIO	JP1 

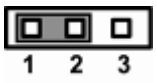
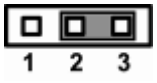
2.4.2 LAN By-Pass Trigger when Power On (JP2)

Description	Function	Jumper Setting
LAN Bypass Trigger when Power On	LAN5 & LAN6 Bypass as same as Power Off status	JP2 
	LAN5 & LAN6 Bypass Disable(Default)	**JP2** 
	LAN5 & LAN6 Bypass Enable	**JP2** 

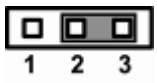
NOTE ***When the system is turned on, you can select LAN bypass function by JP2 and Bios when power on state , when enter the OS,you can select LAN pass function at power on/ off state by software ,the detail information please refer to the appendix 1.***

2.4.3 Clear CMOS Jumper (JP5)

You may need to use this jumper is to clear the CMOS memory if incorrect settings in the Setup Utility.

Description	Function	Jumper Setting
CMOS Clear	Normal (Default)	JP5 
	Clear CMOS	JP5 

2.4.4 Auto Power Button Jumer (JP6)

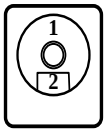
Description	Function	Jumper Setting
Auto Power Button Mode Selection	Auto Power On (Default)	JP6
	Power on By Power button	JP6 

2.5 Connectors

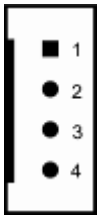
Connectors connect the board with other parts of the system. Loose or improper connection might cause problems. Make sure all connectors are properly and firmly connected. Here is a summary table shows you all connectors on the main board.

Connectors	Label
DC-In Power Jack for NA-340 & NA-340FL	CN1
DC Power Din for NA-340 & NA-340FL for optional	CN2
Power Out Connector	CN3
LAN3 ~ LAN6 Connector	CN4
LAN1 ~ LAN2 Connector	CN6
Reserve Connector	CN7
LCM or SATA Power Connector	CN8
Mini Card Connector	CN9
VGA Connector	CN10
PS2 Keyboard/Mouse Connector	CN11
Front Panel Bezel Connector	CN14
CFastSocket	SCN1
COM port RJ-type(External)	COM1
COM port Box Header 2.0 (Internal)	COM2
COM port Box Header 2.0 (Internal)	COM1-1
CPU FAN Connector	FAN1
System FAN Connector	FAN2/FAN3
Battery Connector	BAT1
Serial ATA Connector	SATA1
Serial ATA Connector	SATA2
DDR III SO-DIMM Socket	SDIMM1
USB Port0 ~ Port1 Connector	USB1
USB Port2 ~ Port3 Connector	USB2
TACT SW1(GPI Switch)	SW1
TACT SW2(Power Button; Reset or GPI Switch)	SW2
Power Input +12V Connector for NA-340R	ATX1

2.5.1 DC-In Power Jack (CN1) for NA-340 & NA-340FL

Pin	Signal	
1	+5V	
2	GND	

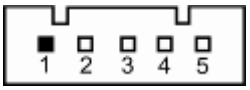
2.5.2 Power Out Connector (CN3)

Pin	Signal	
1	+12V	
2	GND	
3	GND	
4	+5V	

2.5.3 LCM or SATA Power Connector (CN8)

Support 2.5" SATA HDD power

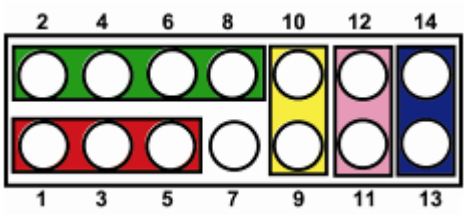
Pin	Signal
1	+5V
2	RXD of COM2
3	No Connection
4	TXD of COM2
5	GND



2.5.4 Mini Card Connector (CN9)

Pin	Signal	Pin	Signal
1	PCIE_WAKE-	2	+3.3V
3	N.C	4	GND
5	N.C	6	+1.5 V
7	GND	8	N.C
9	GND	10	N.C
11	PCIE_CLK-	12	N.C
13	PCIE_CLK+	14	N.C
15	GND	16	N.C
17	N.C	18	GND
19	N.C	20	N.C
21	GND	22	PCIE_RESET-
23	N.C	24	+3.3V_SBY
25	N.C	26	GND
27	GND	28	+1.5V
29	GND	30	SMB_CLK
31	N.C	32	SMB_DATA
33	N.C	34	GND
35	GND	36	USB_D-
37	N.C	38	USB_D+
39	N.C	40	GND
41	N.C	42	N.C
43	N.C	44	N.C
45	N.C	46	N.C
47	N.C	48	+1.5V
49	N.C	50	GND
51	N.C	52	+3.3V

2.5.5 Front Panel Bezel Connector (CN14)



1. Power LED：

This 3-pin connector (Pin 1, 3, 5) connects a LED indicator to the system power switch on the case. Pin 1 is assigned as +, and Pin 3, Pin 5 as -. The Power LED lights up when the system is powered ON.

2. External Speaker and Internal Buzzer Connector：

This 4-pin connector (Pin 2, 4, 6, 8) can be connected to the case-mounted speaker unit or internal buzzer. While connecting the CPU card to an internal buzzer, please short pins 2-4; while connecting to an external speaker, you need to set pins 2-4 to Open and connect the speaker cable to pin 8 (+) and pin 2 (-).

3. ATX Power On/Off Button：

This 2-pin connector (Pin 9, 10) connects the front panel's ATX power button to the CPU card, which allows users to control ATX power supply to be power on/off.

4. System Reset Switch：

This 2-pin connector (Pin 11, 12) can be connected to the case-mounted reset switch that reboots your computer instead of turning OFF the power switch. It is a better way to reboot your system for a longer life of the system's power supply.

5. HDD Activity LED：

This connection is linked to hard drive activity LED on the control panel. LED flashes when HDD is being accessed. The 2-pin connector (Pin 13, 14) connects the hard disk drive to the front panel HDD LED, Pin 13 assigned as -, and Pin 14 as +.

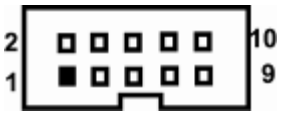
2.5.6 Serial Port1 (For Console) Connector (COM1)

The COM1 Port connector is a RJ-type connector.

Pin	Signal
1	Data Set Ready (DSR)
2	Request to Send (RTS)
3	Ground (GND)
4	Transmit Data (TXD)
5	Receive Data (RXD)
6	Data Carrier Detect (DCD)
7	Clear to Send (CTS)
8	Data Terminal Ready (DTR)

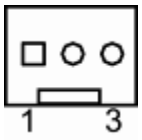
2.5.7 Serial Port2 Connector (COM2)

Pin	Signal
1	Data Carrier Detect (DCD)
2	Data Set Ready(DSR)
3	Receive Date(RXD)
4	Request to Send(RTS)
5	Transmit Data(TXD)
6	Clear to Send(CTS)
7	Data Terminal Ready
8	Ring Indicator(RI)
9	GND
10	NC



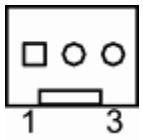
2.5.8 CPU FAN Connector (FAN1)

Pin	Signal
1	Ground
2	+12V
3	Rotation Detection



2.5.9 System FAN Connector (FAN2/FAN3)

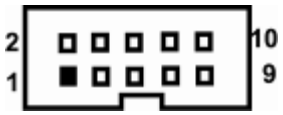
Pin	Signal
1	Ground
2	+12V
3	Rotation Detection



2.5.10 PS2 Keyboard/Mouse Connector (CN11)

The board supports a keyboard and Mouse interface. Connector CN14 is for PS/2 keyboard Connection VIA "Y" Cable.

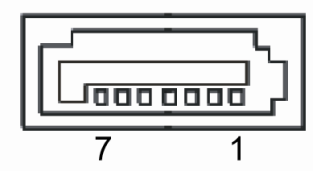
Pin	Signal	Pin	Signal
1	VCC	2	K/B Data
3	K/B CLK	4	GND
5	VCC	6	VCC
7	M/S Data	8	M/S CLK
9	GND	10	NC



2.5.11 Serial ATA Connector: SATA1, SATA2

The SATA connector is for high-speed SATA interface port and it can be connected to hard disk device.

Pin	Signal	Pin	Signal
1	GND	2	TX+
3	TX-	4	GND
5	RX-	6	RX+
7	GND		



SATA1

SATA3

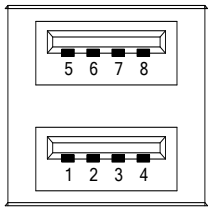
2.5.12 CFast Socket：SCN1

The board is equipped with a CFast™ socket on the solder side to support a SATA signal card. The socket is especially designed to avoid incorrect installation of the CFast™ card. When installing or removing the CFast™ card, please make sure the system power is off

Pin	Signal	Pin	Signal
S1	GND	P5	NC.
S2	TXP	P6	NC.
S3	TXN	P7	GND
S4	GND	P8	NC.
S5	RXN	P9	NC.
S6	RXP	P10	NC.
S7	GND	P11	NC.
		P12	NC.
		P13	+3.3 V
P1	NC.	P14	+3.3 V
P2	GND	P15	GND
P3	NC.	P16	GND
P4	NC.	P17	NC.

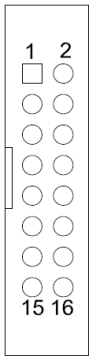
2.5.13 USB Port0~Port1 Connector (USB1)

Pin	Signal
1	USB_POWER
2	USB_PN0
3	USB_PP0
4	GND
5	USB_POWER
6	USB_PN1
7	USB_PP1
8	GND



2.5.14 VGA Connector (CN10)

Pin	Signal	Pin	Signal
1	RED	2	DETECT
3	GREEN	4	NC.
5	BLUE	6	GND
7	VCC	8	DDC DATA
9	GND	10	GND
11	GND	12	Horizontal Sync
13	GND	14	Vertical Sync
15	DDC CLK	16	NC.



2.5.15 LED1~LED8

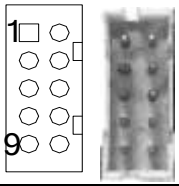
LED	Signal
LED1	For Lan1 Up : LINK (Green : LINK100 ; Amber : LINK1000) Down : Active (Orange)
LED2	For Lan2 Up : LINK (Green : LINK100 ; Amber : LINK1000) Down : Active (Orange)
LED3	For Lan3 Up : LINK (Green : LINK100 ; Amber : LINK1000) Down : Active (Orange)
LED4	For Lan4 Up : LINK (Green : LINK100 ; Amber : LINK1000) Down : Active (Orange)
LED5	For Lan5 Up : LINK (Green : LINK100 ; Amber : LINK1000) Down : Active (Orange)
LED6	For Lan6 Up : LINK (Green : LINK100 ; Amber : LINK1000) Down : Active (Orange)
LED7	Up : Power LED (Green) Down : GPIO (Programmable LED)
LED8	Up : HDD LED (Green) Down : Lan Bypass LED (Option)

2.5.16 USB Port2~Port3 Connector (USB2)

The Universal Serial Bus (USB) connector on the board is for the installation of peripherals supporting the USB interface. USB2 is 10-pin standard onboard USB connectors.

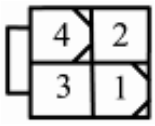
Pin	Signal	Pin	Signal
1	USB_ POWER	2	USB _POWER
3	USB _PN2	4	USB _PN3
5	USB _PP2	6	USB _PP3
7	GND	8	GND
9	GND	10	GND

USB2



2.5.17 Power Input 12V Connector (ATX1) for NA-340R

Pin	Signal
1	GND
2	GND
3	+12V
4	+12V



CHAPTER 3
AMI BIOS SETUP UTILITY

This chapter provides users with detailed description how to set up basic system configuration through the AMIBIOS8 BIOS setup utility.

3.1 Starting

To enter the setup screens, follow the steps below:

1. Turn on the computer and press the <Del> key immediately.
2. After you press the <Delete> key, the main BIOS setup menu displays. You can access the other setup screens from the main BIOS setup menu, such as the Chipset an**d** Power menus.

3.2 Navigation Keys

The BIOS setup/utility uses a key-based navigation system called hot keys. Most of the BIOS setup utility hot keys can be used at any time during the setup navigation process.

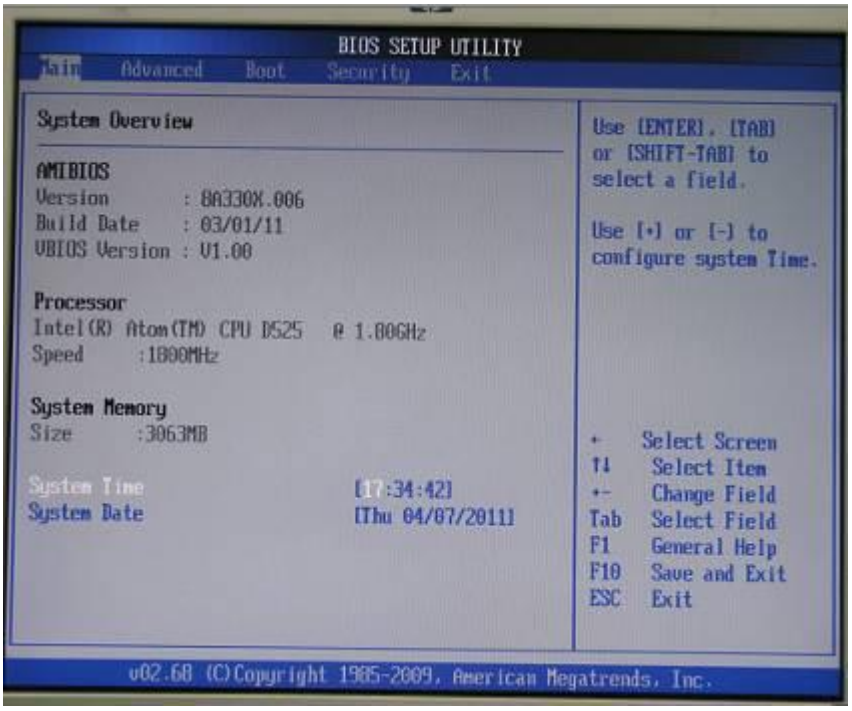
These keys include <F1>, <F10>, <Enter>, <ESC>, <Arrow> keys, and so on.

Note Some of navigation keys differ from one screen to another.

← Left/Right	The Left and Right <Arrow> keys allow you to select a setup screen.
↑↓ Up/Down	The Up and Down <Arrow> keys allow you to select a setup screen or sub-screen.
+– Plus/Minus	The Plus and Minus <Arrow> keys allow you to change the field value of a particular setup item.
Tab	The <Tab> key allows you to select setup fields.
F1	The <F1> key allows you to display the General Help screen.
F10	The <F10> key allows you to save any changes you have made and exit Setup. Press the <F10> key to save your changes.
Esc	The <Esc> key allows you to discard any changes you have made and exit the Setup. Press the <Esc> key to exit the setup without saving your changes.
Enter	The <Enter> key allows you to display or change the setup option listed for a particular setup item. The <Enter> key can also allow you to display the setup sub-screens.

3.3 Main Menu

When you first enter the Setup Utility, you will enter the Main setup screen. You can always return to the Main setup screen by selecting the Main tab. There are two Main Setup options. They are described in this section. The Main BIOS Setup screen is shown below.



- **System Time/Date**

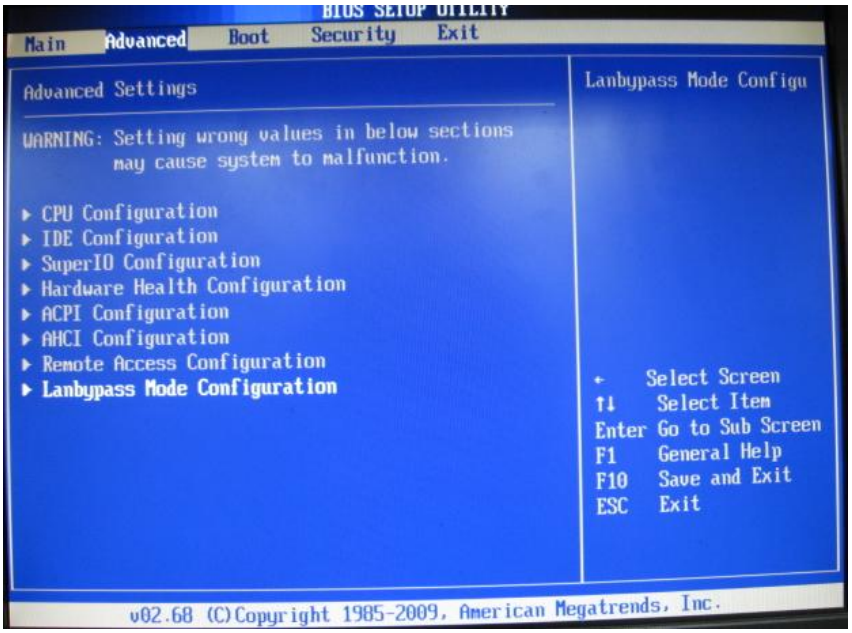
Use this option to change the system time and date. Highlight System Time or System Date using the <Arrow> keys. Enter new values through the keyboard. Press the <Tab> key or the <Arrow> keys to move between fields. The date must be entered in MM/DD/YY format. The time is entered in HH:MM:SS format.

3.4 Advanced Menu

The Advanced menu allows users to set configuration of the CPU and other system devices. You can select any of the items in the left frame of the screen to go to the sub menus:

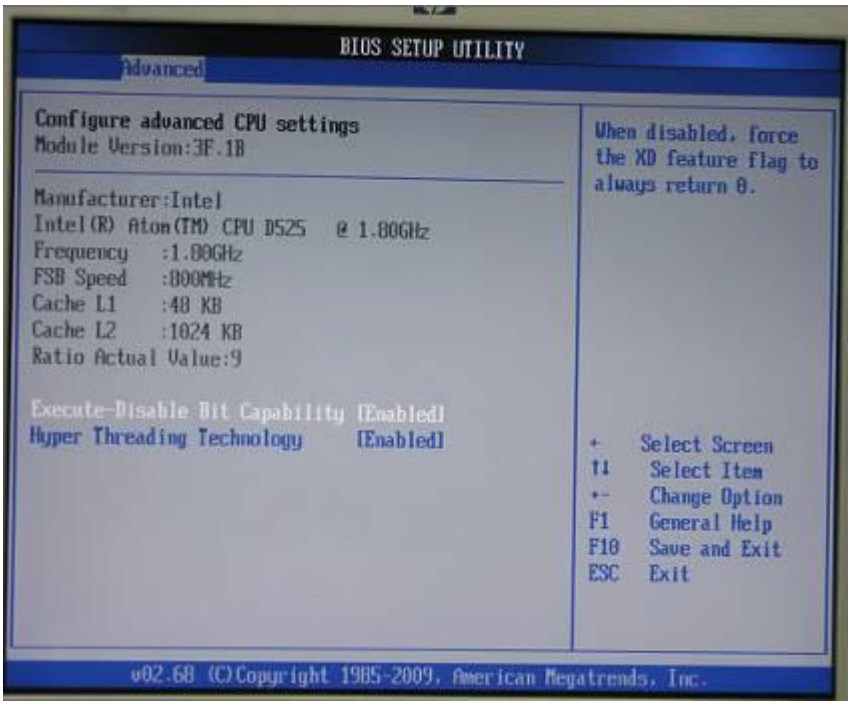
- **CPU Configuration**
- **IDE Configuration**
- **Super I/O Configuration**
- **Hardware Health Configuration**
- **ACPI Configuration**
- **AHCI Configuration**
- **Remote Access Configuration**
- **Lanbypass Mode Configuration**

For items marked with "►", please press <Enter> for more options.



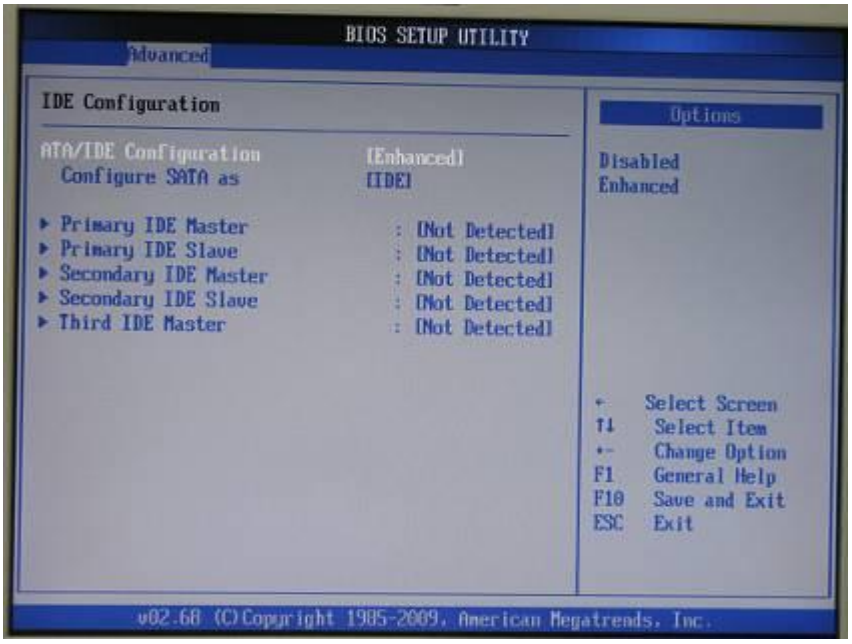
- **CPU Configuration**

This screen shows the CPU Configuration, and you can change the value of the selected option.



- **IDE Configuration**

You can use this screen to select options for the IDE Configuration, and change the value of the selected option. A description of the selected item appears on the right side of the screen. For items marked with "►", please press <Enter> for more options.



- **ATA/IDE Configuration**

  Use this item to specify the integrated IDE controller. There are three options for your selection: Disable, Compatible and Enhanced.

- **Legacy IDE Channels**

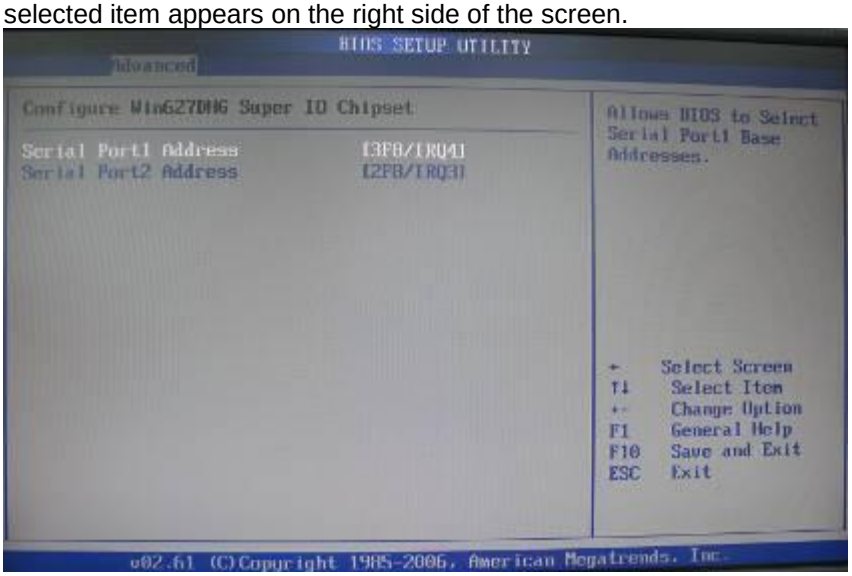
  When the ATA/IDE Configuration is set to Compatible, this item will be displayed.

- **Primary/Secondary/Third/IDE Master/Slave**

  Select one of the hard disk drives to configure IDE devices installed in the system by pressing <Enter> for more options.

- **Super IO Configuration**

You can use this screen to select options for the Super IO Configuration, and change the value of the selected option. A description of the selected item appears on the right side of the screen.

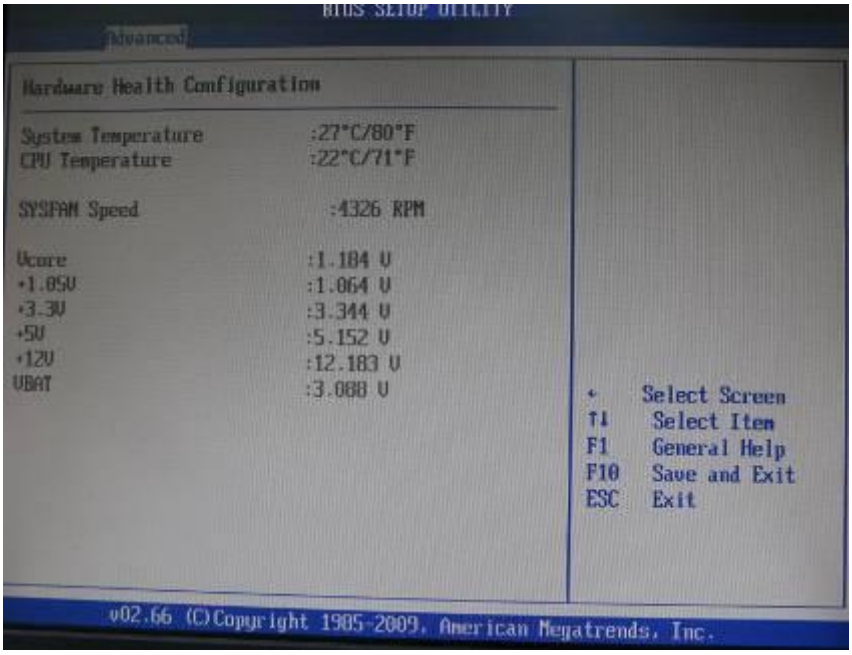


- **Serial Port1 Address**
  This option specifies the base I/O port address and Default setting is 3F8.
  Here are the options for your selection, Disabled.

- **Serial Port2 Address**
  This option specifies the base I/O port address and Default setting is 2F8.
  Here are the options for your selection, Disabled.

- **Hardware Health Configuration**

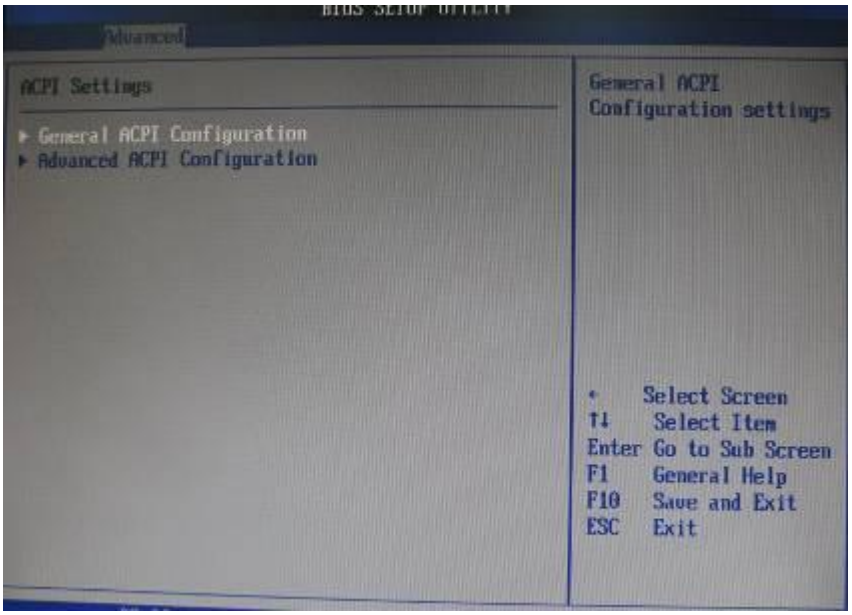
This screen shows the Hardware Health Configuration, and a description of the selected item appears on the right side of the screen



- **System Temperature**
  Show you the current system temperature.
- **CPU Temperature**
  These read-only fields show the functions of the hardware thermal sensor by CPU thermal diode that monitors the chip blocks to ensure a stable system.
- **Vcore 12V / 5V / 3.3V**
  Show you the voltage of 12V / 5V / 3.3V and etc.

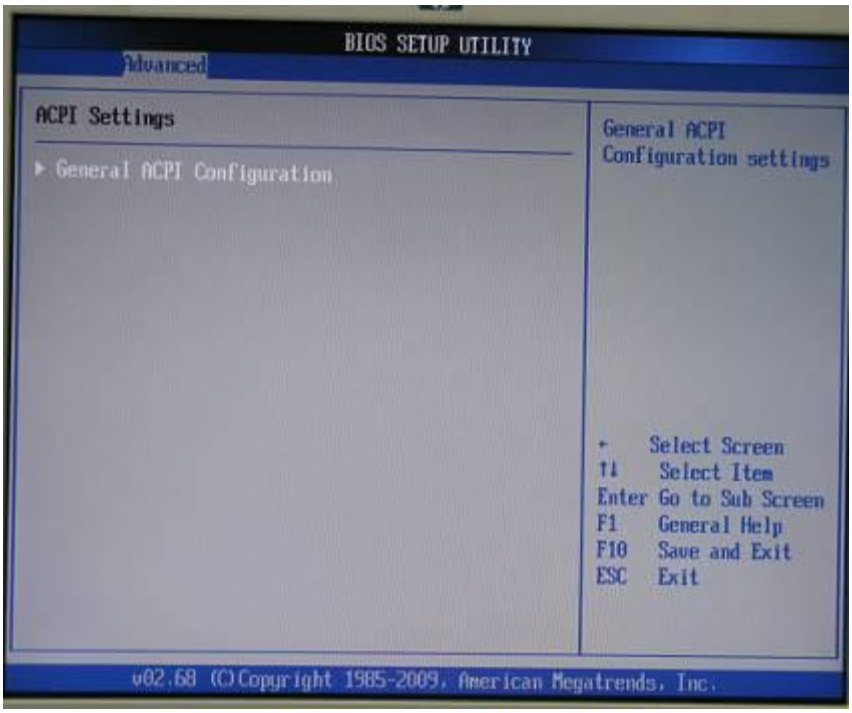
- **ACPI Settings**

You can use this screen to select options for the ACPI Settings, and change the value of the selected option. A description of the selected item appears on the right side of the screen.

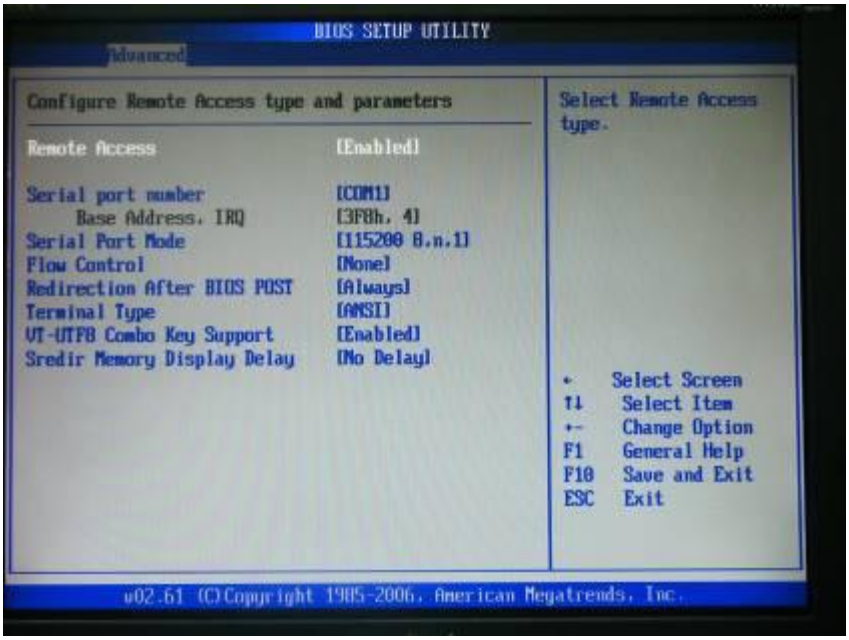


- **General ACPI Configuration**

Scroll to this item and press <Enter> to view the General ACPI Configuration sub menu, which contains General ACPI (Advanced Configuration and Power Management Interface) options for your configuration.



- **Remote Access**



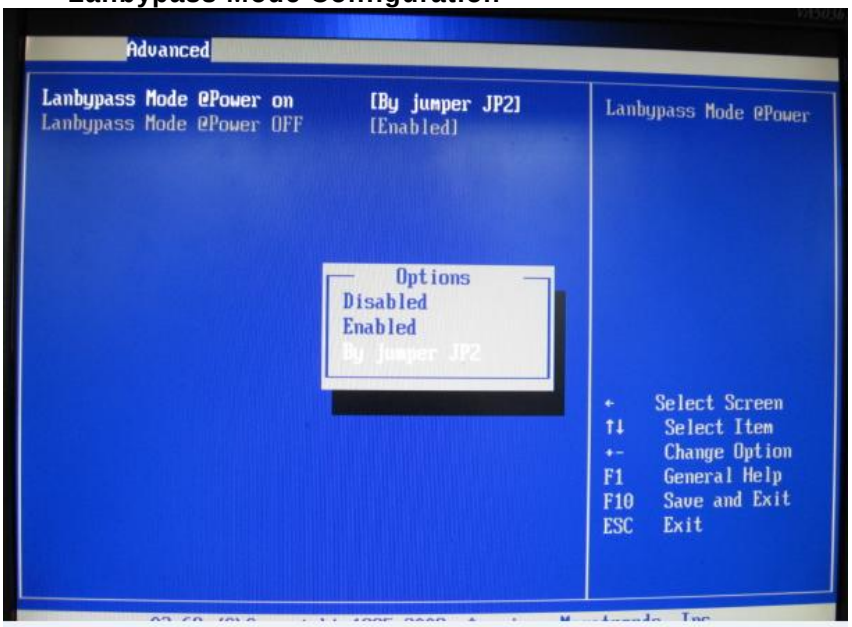
- **Serial port number**
  This item specifies the base I/O port address and Interrupt Request address of serial port 1. The Optimal setting is 3F8/IRQ4.

- **Serial Port Mode**
  This item allows you to setup the data transfer rate for the console port. The default value is 115200. Available options are "9600", "19200", "38400", "57600" and "115200".

- **Flow Control**
  This item allows you to select flow control for console redirection. The configuration options: None, Hardware and Software.

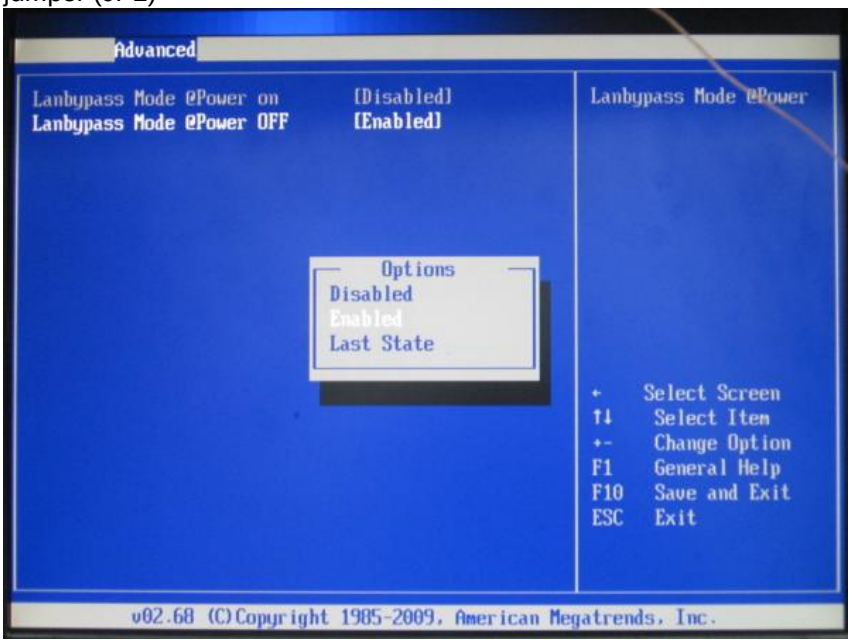
- **Redirection After BIOS POST**
  Use this item to enable or disable the function of Console Redirection, which allows you maintain a system from a remote location. The default setting is *Always*.
- **Terminal Type**
  This item allows you to select the target terminal type. Configuration options: ANSI, VT100 and VT-UTF8.
- **VT-UTF8 Combo Key Support**
  Use this item to "Enabled" or "Disabled" VT-UTF8 combination key supports for ANSI / VT100 terminals.
- **Sredir Memory Display Delay**
  This item allows you to indicate the length of time in seconds to off the memory display delay. The default setting is "No delay".

- **Lanbypass Mode Configuration**



- **Lan bypass Mode @power On**

Use this item to select lanbypass to "disabled" or "enabled" or by jumper (JP2)



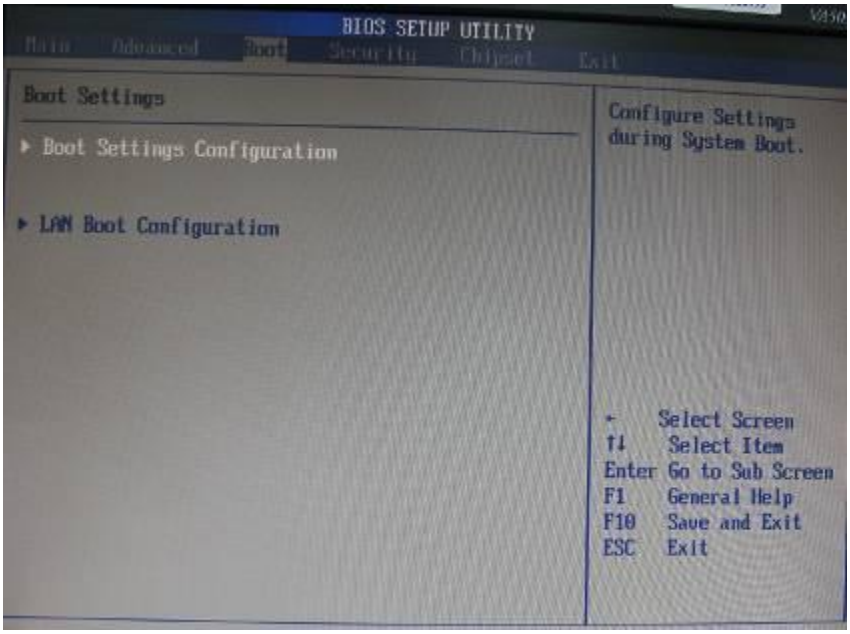
- **Lanbypass Mode @power OFF**

  Use this item to select lanbypass to "disabled" or "enabled" or keep "last state.''

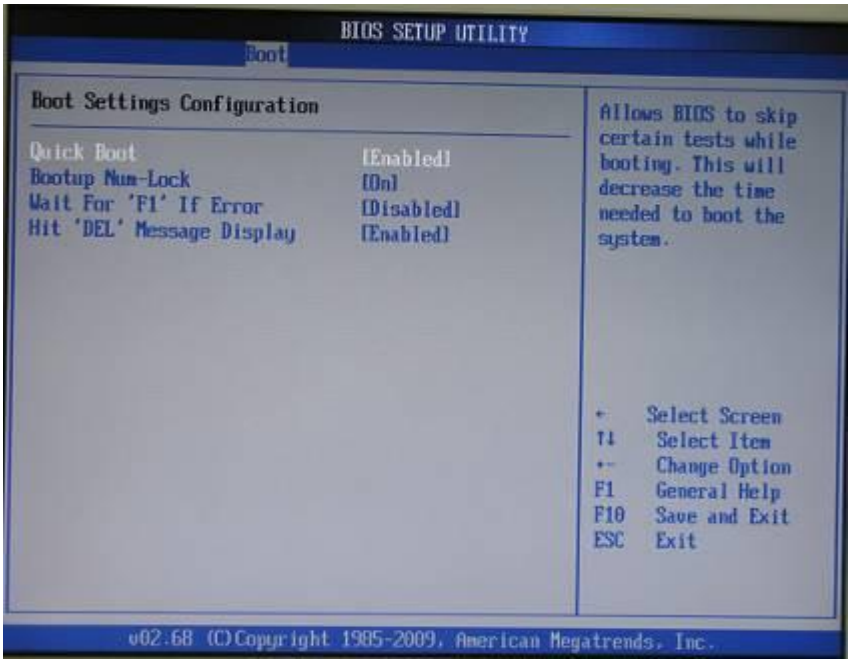
3.5 Boot Menu

The Boot menu allows users to change boot options of the system. You can select any of the items in the left frame of the screen to go to the sub menus:

For items marked with "►", please press <Enter> for more options.



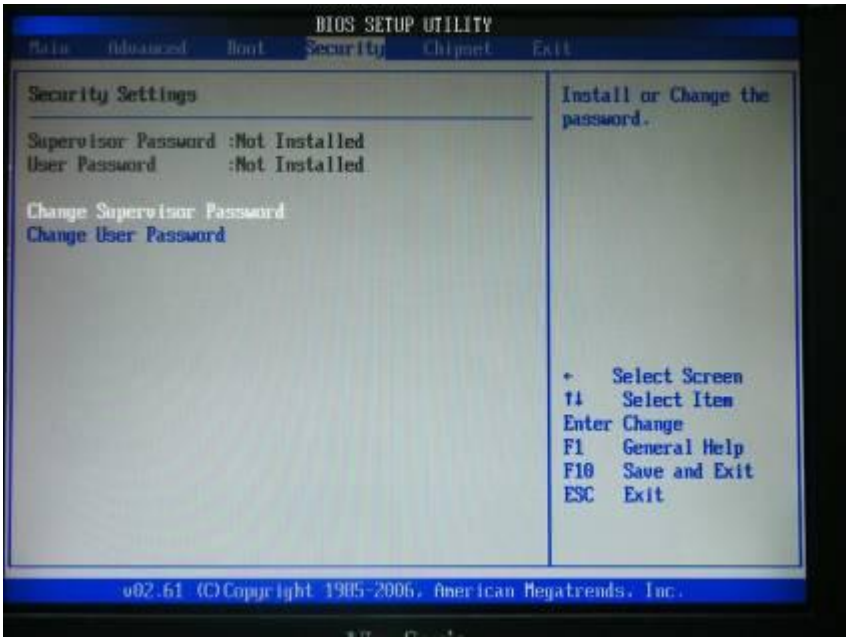
- **Boot Setting Configuration**


BIOS SETUP UTILITY
Boot
Boot Settings Configuration
Quick Boot [Enabled]
Bootup Num-Lock [On]
Wait For 'F1' If Error [Disabled]
Hit 'DEL' Message Display [Enabled]
Allows BIOS to skip certain tests while booting. This will decrease the time needed to boot the system.
← Select Screen
↑↓ Select Item
+- Change Option
F1 General Help
F10 Save and Exit
ESC Exit
v02.68 (C)Copyright 1985-2009, American Megatrends, Inc.

  - **Quick Boot**
    Enabling this item lets the BIOS skip some power on self tests (POST). The default setting is *Enabled*.
  - **Boot Num-Lock**
    Use this item to select the power-on state for the NumLock. The default setting is *On*.
  - **Wait For 'F1' Of Error**
    If this item is enabled, the system waits for the F1 key to be pressed when error occurs. The default setting is *Enabled*.
  - **Hit 'DEL' Message Display**
    If this item is enabled, the system displays the message "Press DEL to run Setup" during POST. The default setting is *Enabled*.

3.6 Security Menu

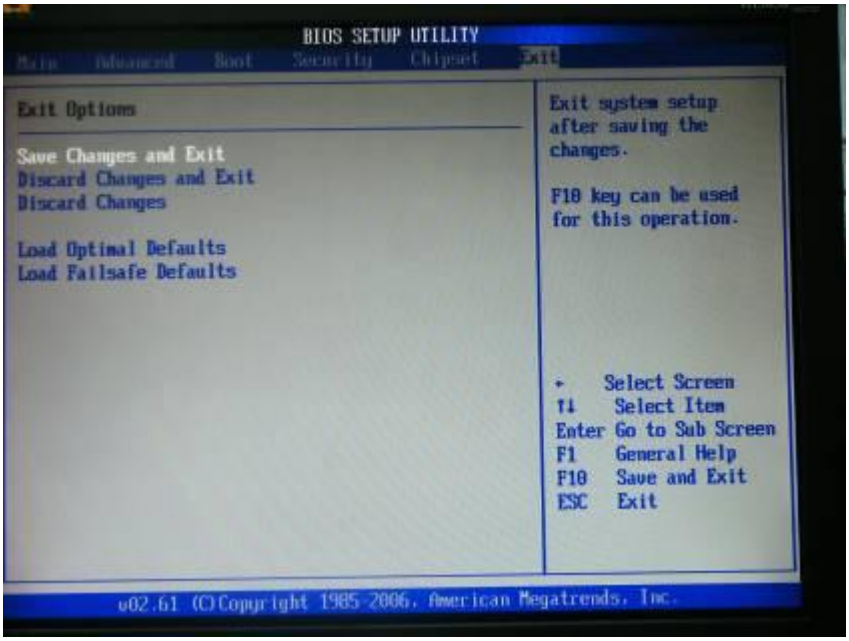
The Security menu allows users to change the security settings for the system.



- **Supervisor Password**
  This item indicates whether a supervisor password has been set. If the password has been installed, Installed displays. If not, Not Installed displays.
- **User Password**
  This item indicates whether a user password has been set. If the password has been installed, Installed displays. If not, Not Installed displays.
- **Change Supervisor Password**
  Select and press <Enter> to access the sub menu. You can use the sub menu to change the supervisor password.
- **Change User Password**
  Select and press <Enter> to access the sub menu. You can use the sub menu to change the user password.

3.7 Exit Menu

The Exit menu allows users to load your system configuration with optimal or failsafe default values.



- **Save Changes and Exit**

  When you have completed the system configuration changes, select this option to leave Setup and reboot the computer so the new system configuration parameters can take effect. Select Save Changes and Exit from the Exit menu and press <Enter>. Select Ok to save changes and exit.

- **Discard Changes and Exit**

  Select this option to quit Setup without making any permanent changes to the system configuration. Select Discard Changes and Exit from the Exit menu and press <Enter>. Select Ok to discard changes and exit.

- **Discard Changes**
  Use this item to abandon all changes.

- **Load Optimal Defaults**
  It automatically sets all Setup options to a complete set of default settings when you select this option. The Optimal settings are designed for maximum system performance, but may not work best for all computer applications. In particular, do not use the Optimal Setup options if your computer is experiencing system configuration problems. Select Load Optimal Defaults from the Exit menu and press <Enter>.

- **Load Fail-Safe Defaults**

  It automatically sets all Setup options to a complete set of default settings when you select this option. The Fail-Safe settings are designed for maximum system stability, but not maximum performance. Select the Fail-Safe Setup options if your computer is experiencing system configuration problems. Select Load Fail-Safe Defaults from the Exit menu and press <Enter>. Select Ok to load Fail-Safe defaults.

MEMO:

APPENDIX A
LAN Bypass Configuration

About LAN Bypass

In network security application, it is very important to ensure that network traffic to continue passing through the device even if hardware failure occurs or operating system crashes. LAN bypass gives us a solution for this problem.

The NA-340 series Lan bypass function is very flexible. It can be selected at any time and any stage. You can enable LAN bypass for power on state by jumper, BIOS, or by software program when entering into the OS. Moreover, for power off state, you can set up LAN Bypass through BIOS, or use software program when entering into the OS. If you don't do any change, the state will keep the previous power off state.

The NA-340 series have LAN bypass capability with the special designed latch relay circuitry. When LAN bypass function is enabled, a relay closes to act as a bridge to route network data flow between LAN port 5 and LAN port 6. The bypass feature can be activated immediately or according to timer which is configurable from 1 up to 64 seconds. You can write a software program to control bypass operation behavior to fit your requirement. A LAN bypass sample program is provided in CD for reference.

Note: The sample codes for the above features can be found in the CD, and they are for reference purposes only.

LAN Bypass Register Configuration

Power ON Bypass Control Register (0x8F3)

7	6	5	4	3	2	1	0
BYM 1	BYM 0	SEG N6	SEG N5	SEG N4	SEG N3	SEG N2	SEG N1
W	W	W	W	W	W	W	W

Default value: 00000000

Bit 7~6 BYM1~0

These bits are used to set bypass mode.

00 Not used.

01 Force bypass enable

Relay closes immediately to form LAN bypass on selected segment when power on.

10 Force bypass disable

LAN bypass is disabled immediately on selected segment when power on.

11 Timer enable

When power on, the selected segments are controlled by the setting of LAN bypass Timer Control register.

Bits 5~0 SEGN6~1

Select each segment by setting the corresponding bit to 1. When the bit is set to 0, no action happens upon the segment.

Note: NA-340 serious support SEGN1 for Lan 5 Lan6 only

Data read back from this register is not defined and therefore must be ignored. Reading from this register makes no effect on LAN bypass function. All data in this register will be cleared when system is turned off. If you still want to use power on LAN bypass function, turn on the system and make sure to rewrite the register. Otherwise, if you don't rewrite the register, the status will be kept on JP2 or bios setting.

Power OFF Bypass Control Register (0x8F7)

7	6	5	4	3	2	1	0
X	X	SEGF6	SEGF5	SEGF4	SEGF3	SEGF2	SEGF1
--	--	W	W	W	W	W	W

Default value: 00000000

Bit 7~6 Not used.

Bits 5~0 SEGF6~1

Use the corresponding bit to configure each segment. Setting the bit to 1 enables LAN bypass on the segment when power off. Clearing the bit to 0 disables LAN bypass on the segment when power off.

Note: NA-340 series support SEGN1 for LAN5 LAN6 only

Data read back from this register is not defined and therefore must be ignored. Reading from this register makes no effect on LAN bypass function. When system is turned off, last data written onto this register will be kept. If you want to make any change, turn on the system and make sure to reconfigure the register.

LAN Bypass Timer Control Register (0x8F2)

7	6	5	4	3	2	1	0
TEXP	X	X	X	X	TVAL2	TVAL1	TVAL0
R	--	--	--	--	W	W	W

Default value: 00000000

Bit 7 TEXP (Read Only)

This bit indicates status of hardware timer.

0 Timer has not expired

1 Timer has expired

Bits 6~3 Not used.

Bits 2~0 TVAL2~0

These bits determine the amount of count value in second(s).

001 1 (sec)

010 2 (sec)

011 4 (sec)

100 8 (sec)

101 16 (sec)

110 32 (sec)

111 64 (sec)

000 Timer is not activated.

Writing a value to these bits will reset the hardware timer. The counting process begins again according to the new written value. Software must write count value periodically to ensure that timer will never expire. If timer timeout occurs, relay(s) automatically close to form LAN bypass on selected segment(s) based on the setting of Power On Bypass Control register (SEGN6~SEGN1).

Note: NA-340 series support SEGN1 for LAN5 LAN6 only

Data (bits 6~0) read back from this register is not defined and therefore must be ignored. A read operation upon this register should not refresh the hardware timer.

MEMO:

APPENDIX B
WDT Timer for System Reset

WDT (Watchdog Timer)

The hardware supports the WDT (Watchdog Timer) function. While time-out happens after a defaulted period, the WDT will reset the system.

The sample codes for the above features can be found in the CD, and they are only for customers' reference as remarked.

MEMO:

APPENDIX C
WARNING

- This is a class B Product. In a domestic Environment this Product may cause radio interference in which case the user may be required to take adequate measures.

- It will be danger if battery is incorrectly replaced. Replacing only with the same or equivalent type is highly recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

Warning for Hard Disk Drive Selection:

TUV approved Hard Disk Drive is preferred for TUV compliance Hard Disk drive-Optional, (NWGQ2), generic, Input Voltage rated 5V dc/1.0A, 12V dc/1.8A maximum. Minimum clearance from uninsulated live parts 4.0 mm.

"The equipment is to be installed in an environment with maximum ambient temperature must not exceed 45°C."

"The openings on the enclosure are for air convection hence protected the equipment from overheating.

DO NOT COVER THE OPENINGS."

"Lay this equipment on a reliable surface when install.

A drop or fall could cause injury."

"The equipment shall be installed according to specification as nameplate. Make sure the voltage of the power source when connect the equipment to the power outlet.

The current of load and output power of loads shall be not over the specification.""This equipment must be connected to the reliable earthling before using."

Electric shock hazard inside the redundant power supply

The exchange of modules shall be done by service person.